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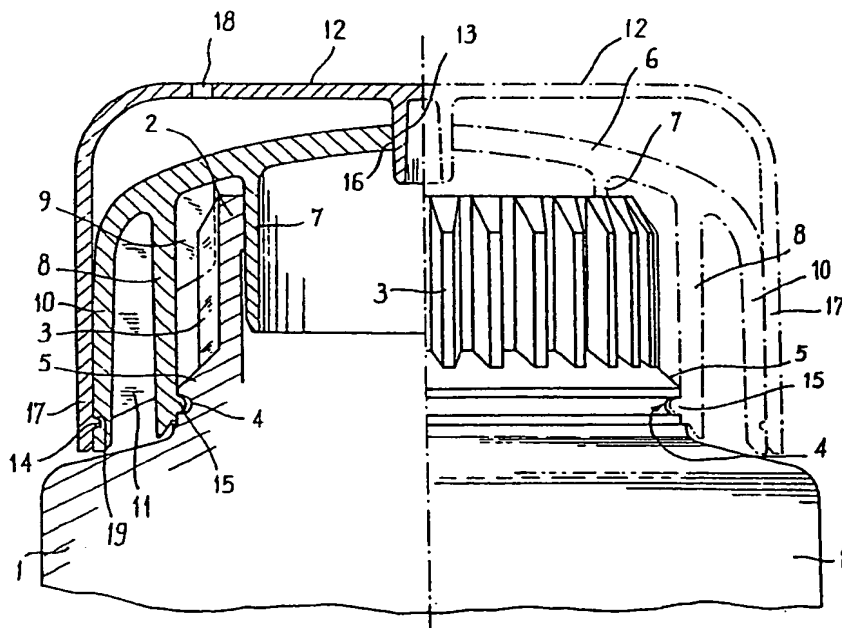
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None

(58) Field of search
B8T
Selected US specifications from IPC sub-class B65D

(54) Cosmetic cream or lotion
applicator/distributor

(57) A combined applicator and distributor device for applying cosmetic cream or lotion to the skin of a user, comprises an applicator plug 6 having a convexly formed upper region with a smooth outer surface for distribution of the cream or lotion on the skin, a sealing skirt 7 for forming a seal with the interior cylindrical surface of the neck 2 of a container 1, a retention skirt 8 for attaching the plug to the container, and an outer skirt 10 for engagement by a cap 12, the outer skirt and the retention skirt being reinforced by stiffening webs 11 extending therebetween and the cap comprising a central formation 13 entering and obturating an outlet aperture 16 in the upper region of the plug.

Fig. 1



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FIG. 1

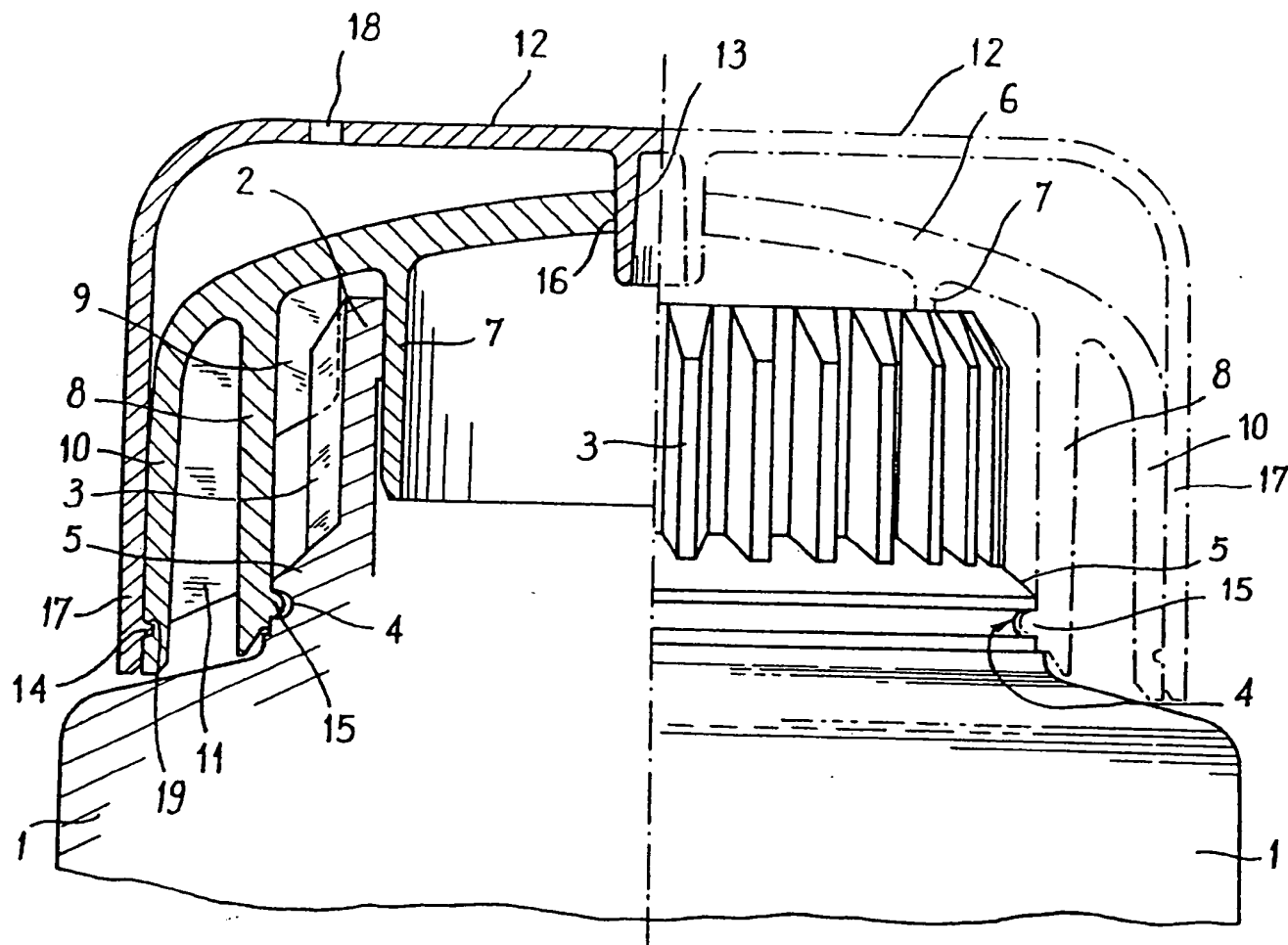
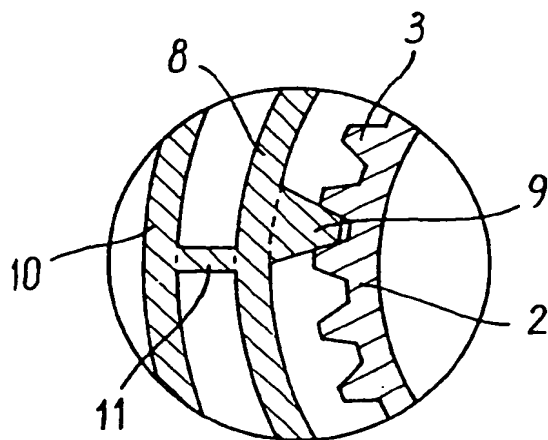


FIG. 2



SPECIFICATION

Cosmetic cream or lotion applicator/distributor

5 This invention relates to a combined applicator/distributor for cosmetic cream or lotion.

In the cosmetics art, various products in the form of cream, such as beauty creams, make-up remover creams, cleanser creams, sun screening creams,

10 hydrating creams and the like are housed in plastics or plastically deformable metal tubes with screw caps. Body milks are stored in flexible polyethylene bottles with screw caps. The creams or lotions are squeezed out of the containers through apertures in plugs fitted within the mouth of the container. The apertures have shapes and volumes which vary according to requirements. When the cream or lotion is to be used, it is placed in the palm of the hand of a user to be applied by hand to the face or body.

20 Frequently, this is a wasteful procedure if too much cream or lotion is squeezed out initially and, moreover, application is generally of non-uniform character, depending upon the rate and pressure of application to the face or body.

25 According to the present invention, there is provided a combined applicator and distributor device for applying cosmetic cream or lotion on the skin of a user, which device comprises an applicator plug for fitting in the neck of a container, and a closure cap for fitting over the plug, which plug has a convexly formed upper region with a smooth outer surface for distribution therewith of the cream or lotion on the skin, at least three skirts depending from the upper region, including a sealing skirt for forming a seal with the interior cylindrical surface of the neck of the container, a retention skirt for attaching the plug to the container and an outer skirt for engagement by the cap, the outer skirt and the retention skirt being reinforced by stiffening webs extending therebetween and the cap comprising a central formation entering and obturating an outlet aperture in the convexly formed upper region of the plug.

The device of this invention essentially provides 45 three features, namely an outer shape of plug which enables a pleasant contact to be made with the skin for direct application of cream or lotion thereto; protection of the plug against tampering and damage and guarantee of tightness of closure on the container with respect to the product therein when it is not to be used.

In a preferred embodiment of the invention, the retention skirt is formed with an annular bead on the interior lower region thereof to engage with an 55 annular groove extending around the neck of the container in the manner of a snap fit. According to another feature of the invention, there is provided an anti-rotation device formed by wings fitted to an interior surface of the convex part of the plug to enter interstices between longitudinally extending ribs formed on the exterior of the neck of the container. The wings preferably extend inwardly from the retention skirt and may also extend to part of the sealing skirt.

65 In addition to containing a central formation

entering an aperture in the convex region of the plug to achieve obturation of it, the cap comprises in the upper region thereof an air vent aperture for facilitating fixing of the cap on the plug. For attaching 70 the cap to the outer skirt of the plug, an annular projection on the interior surface of the cap is preferably provided for entering an opposed annular groove on the exterior surface of the outer skirt. The positions of projection and groove may be reversed, 75 if desired. To enable the easy removal of the cap, the projection is preferably divided into a number of sections, preferably four, which are suitably spaced apart.

For a better understanding of the invention and to show how the same can be carried into effect reference will now be made by way of example to the accompanying drawings in which:

Figure 1 is a half sectional/half elevational view of a device embodying this invention; and

85 *Figure 2* is a horizontal cross-section to part of the device of *Figure 1*, the section being taken in the region of the neck of the container.

Referring to *Figure 1*, a flexible tube or bottle 1 with a neck 2 is formed externally at its upper part with 90 vertical ribs 3 below which is a groove 4 which is separated from the ribs 3 by a ramp 5. An applicator/distributor plug 6, preferably of polypropylene, has an upper part which is convex for a smooth application to the skin and an ogival lateral 95 part for enabling an easy fitting and removal of a protecting cap 12 which forms a friction fit therewith. The plug 6 comprises three concentric skirts, namely a sealing skirt 7 applied to the inner wall of the neck 2 of the tube or bottle 1, a retention skirt 8 comprising a beading 15 which enters the groove 4 to attach the skirt to the tube or bottle and an outer skirt 10 on which is fixed the protecting cap 12.

The retention skirt 8 is provided with anti-rotation wings 9 which, in the assembled closure of the bottle or tube become engaged with the ribs 3 of the neck 2. 105 A plurality, for example four, stiffening webs 11 are formed between the outer skirt 10 and the retention skirt 8 for imparting reinforcement to the structure of the plug.

The cap 12, which is preferably made of crystalline polystyrene or polypropylene has a central annular projection 13 which, when the cap is fitted on the plug 6, obturates an outlet aperture 16 of the plug.

At the lower marginal region of the exterior 115 surface of the outer skirt 10 is formed an annular groove 19 which, in the closed container, is engaged by a plurality of projections 14 formed at a corresponding region 17 of the internal surface of the cap. These projections, extending over sectors of the interior surface of the cap may be for example four in number and assist in the retention of the cap on the plug. At the upper part of the cap 12 is provided an air vent aperture 18 which facilitates the fitting of the cap 12 on the plug 6.

125 The plug 6 and protective cap 12 may be delivered assembled to the manufacturer of the tubes or bottles 1 and can then be mounted on the tubes or bottles in a single operation in which engagement of the rib 15 of the retention skirt 8 with the groove 4 130 preformed on the tube or bottle takes place. This

assembly method is essential when filling tubes on conventional machines since the tubes need to be positioned in the inverted state, with the neck part at the bottom and the bottom of the tube open for introduction of the product after which the bottom of the tube is closed, for example by soldering or welding.

- In the case of flexible bottles, the applicator/distributor plugs and the protective cap may be delivered separately to be assembled on the bottle after filling thereof.

CLAIMS

1. A combined applicator and distributor device for applying cosmetic cream or lotion on the skin of a user, which device comprises an applicator plug for fitting in the neck of a container, and a closure cap for fitting over the plug, which plug has a convexly formed upper region with a smooth outer surface for distribution therewith of the cream or lotion on the skin, at least three skirts depending from the upper region, including a sealing skirt for forming a seal with the interior cylindrical surface of the neck of the container, a retention skirt for attaching the plug to the container and an outer skirt for engagement by the cap, the outer skirt and the retention skirt being reinforced by stiffening webs extending therebetween and the cap comprising a central formation entering and obturating an outlet aperture in the convexly formed upper region of the plug.
2. A device as claimed in claim 1, wherein the cap and outer skirt are adapted for engagement one with the other, one comprising a plurality of projections occupying sectors of a surface on which they are provided and the other comprising a matching annular groove.
3. A device as claimed in claim 1 or 2, wherein the cap comprises in the upper region thereof an air vent aperture.
4. A combined applicator and distributor device, substantially as hereinbefore described with reference to and as shown in Figures 1 and 2 of the accompanying drawings.
5. A container for cream or lotion having a combined applicator and distributor device as claimed in any one of the preceding claims fitted in a neck region thereof.
6. A container as claimed in claim 5 having an annular groove in the neck region thereof, the retention skirt being formed with an annular beading in a lower region of the interior surface thereof for engagement with the groove.
7. A container as claimed in claim 5 or 6, having an anti-rotation device formed by wings fitted to the interior surface of the convex part of the plug and the neck of the container being formed with longitudinally extending ribs on the exterior surface thereof defining interstices for entry by said wings.
8. A container as claimed in claim 7, wherein said wings extend from the interior surface of the retention skirt.
9. A container as claimed in any one of claims 5 to 8 which is a plastics or plastically deformable tube or a plastics bottle.

10. A container for cosmetic cream or lotion having a neck region closed substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

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